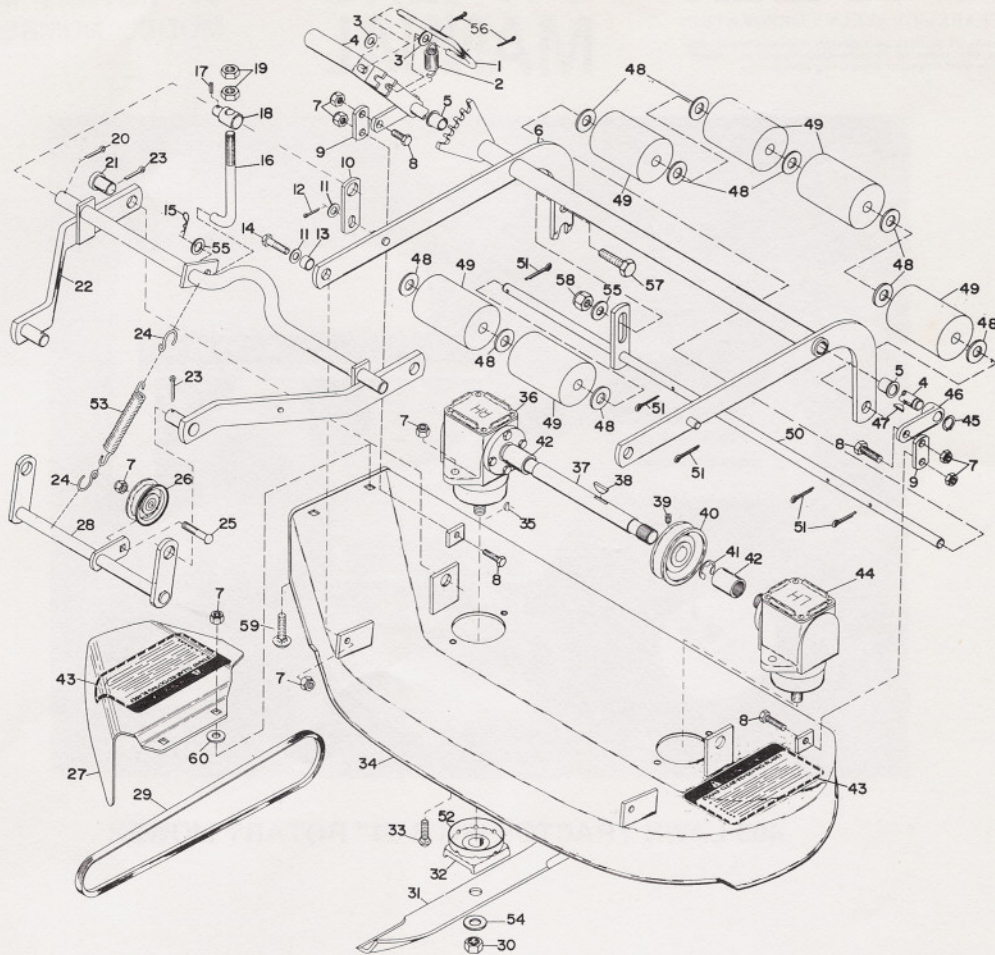
**408 LAWN TRACTOR WITH 34" ROTARY MOWER****GENERAL**

1. The 34" mower is a center mounted unit custom designed and built expressly for the 408 Lawn Tractor. The mower is recommended for homeowners lawns and comes from the factory fully assembled.
2. The Owners Manual includes attaching to the tractor, safety, operation and maintenance instructions. Use the illustrated parts list for reference to individual part numbers. Contact the Gravelly Dealer for further information.
3. Height: 14"
Weight: 105 lbs.
Length: 27 1/2"
Width: 44"
Cutting Width: 34"
Deck: One piece stamped steel.
Drive: Right angle bevel gears, ball bearings, aluminum housing, self-adjusting spring tensioned V-belt.
Blades: 2 steel, hi-strength, hi-lift
17" length, .204" thick
Features: Cutting height adjusts from operators position.
Purpose: Homeowners lawn care.
Tractor: 408 Lawn Tractor



ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
1	15339P1	Rod, Lock	30	13412P1	Nut, Lock ESNA 5/8-18 Light Thin
2	15353P1	Spring, Ext Type 2-1/4 x .75 x 11.8 Rate	31	11234P1	Blade
3	120393	Washer, Flat 11/32 x 11/16 x .065	32	10986P2	Cradle, Blade
4	15332A1	Adj. Weld Height	33	126402	Bolt 3/8-16 x 1-1/4 Rd Hd Sq Nk
5	15331P1	Bearing, Flange	34	15301A1	Deck, Weldment
6	19946A1	Support, Mower	35	124543	Key, Woodruff 1/8 x 1/2 Hard No. 3
7	456004	Nut, Lock 3/8-16 Washer Insert Hex	36	15308P1	Drive, Assembly R.H.
8	180124	Bolt, Hex 3/8-16 x 1-1/4	37	15314P1	Shaft, Drive
9	15342P1	Link, Mower	38	103462	Key, Woodruff 3/16 x 1 Soft No. 13
10.	15341P1	Link	39	102581	Screw, Set 5/16-18 x 3/8 Hex Socket
11.	120394	Washer, Flat 13/32 x 13/16 x .065	40	18087P1	Pulley
12	137185	Pin, Cotter 1/8 x 1	41	15318P1	Ring, Retaining
13	15340P1	Spacer, .447 x .687 x .400	42	15316P1	Collar, Drive
14	180124	Bolt, Hex 3/8-16 x 1-1/4	43	18549P1	Decal, Danger
15	15691P1	Pin, Hair Cotter	44	15309P1	Drive, Assembly L.H.
16	19316P1	Rod, Lift	45	15388P1	Ring, Snap
17	142485	Pin, Groove 1/8 x 5/8 Type A	46	15337P1	Arm, Linkage
18	11317A1	Pivot, Mower Lift Assembly	47	124548	Key, Woodruff 5/32 x 3/4 Hard No. 8
19	120238	Nut, Jam 1/2-13	48	94218790	Washer, Flat 21/32 x 1-1/4 x .100
20	137204	Pin, Cotter 1/8 x 1-1/2	49	15351P1	Roller, Gage
21	15324P1	Pin, Conn.	50	19948A1	Pin, Weldment
22	15319A1	Hanger Assy. Mower	51	120123	Pin, Cotter 1/8 x 1-1/4
23	187988	Pin, Cotter 3/16 x 1-1/4	52	15311P1	Shield, Gear Box
24	18295P1	Anchor, Spring	53	15255P1	Spring, Ext Type 5-1/2 x .50 x 20 Rate
25	126416	Bolt, 3/8-16 x 1-3/4 Rd Hd Sq Nk	54	446239	Washer, Flat 5/8 x 1-3/8 x .109
26	15352P1	Pulley, Idler	55	120396	Washer, Flat 17/32 x 1-1/16 x .095
27	19987P1	Shield, Safety Estension	56	121222	Pin, Cotter 3/32 x 3/4
28	15344A1	Idler, Weldment, Belt	57	180177	Bolt, Hex 1/2-13 x 1-1/2
29	15355A1	Belt, V 1/2 x 5/16 x 37.6	58	435507	Nut, Lock 1/2-13 Washer Insert Hex
			59	120915	Bolt, 3/8-16 x 1 Rd Hd Sq Nk
			60	120390	Washer, Flat 9/16 x 1-3/8 x .109

fig 1

ILLUSTRATED PARTS LIST

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ATTACHING

1. Slide the lift pivot on the lift rod with the groove pin towards the bend in the lift rod, fig 1, Items 16, 17, and 18.
2. Run one of the jam nuts 3/4 of the way on the threaded portion of the lift rod. Keeping it in position, jam the other nut against it, fig 1, Items 16 and 19.
3. Lower the attachment lift on the tractor all the way down.
4. Work from the right side of the tractor. Turn the lift rod upside down (bent part up), and put the lift pivot in the second hole from the end of the tractor lift. Put it in from the right side.
5. Rotate the lift rod to the right-side-up position (bent part down) and raise the tractor lift all the way up.
6. Slide the mower under the tractor, center the hanger assembly and move it as forward as possible.
7. Put the PTO in the IN position.
8. Slip the belt on the PTO pulley.
9. Slide the mower as rearward as possible.
10. Lower the lift rod and connect it to the hanger assembly with a flatwasher and a hair pin cotter as in fig 1, Items 15 and 55.
11. Open the tractor attachment latches.
12. With the tractor lift lever, lift the mower and guide the hanger into the attachment latches.
13. Close the attachment latches, lock them with hair pin cotters and lower the mower.
14. Hook the spring anchors to the spring and connect this assembly between the idler shaft and the hanger assembly, fig 1, Items 22, 24, 28 and 53.
15. Set the flat side of the belt on the idler pulley, fig 1, Item 26. The belt is now in the tensioned running position. Put the PTO in the OUT position.

SAFETY

1. READ THE TRACTOR OWNERS MANUAL. Be familiar with all controls and follow safety precautions outlined in the manual.
2. DO NOT ALLOW PASSENGERS to accompany the operator at any time.
3. DO NOT ALLOW CHILDREN to operate the equipment, nor allow adults to operate it without proper instructions.
4. INSPECT THE WORK AREA for rocks, glass, metal, bones, and any other foreign objects. Stay alert for holes and other hidden hazards.
5. USE EXTREME CAUTION when operating on slopes.
6. REDUCE SPEED on all side slopes and sharp turns.
7. DO NOT OPERATE equipment except from operator position at the handles of the tractor.
8. KEEP SAFETY devices and shields in place at all times.
9. DISENGAGE POWER to attachment and stop the engine prior to making any adjustment or clearing the unit.
10. DO NOT WEAR LOOSE fitting clothing.
11. KEEP HANDS, feet, hair, clothing, etc., away from moving parts.
12. KEEP BYSTANDERS and pets removed from the work area.
13. DIRECT DISCHARGE so as not to endanger life or property; such as people, pets, structures, cars, etc.

OPERATION

1. Refer to the tractor Owners Manual for safety and operating instructions to engage and disengage the PTO (power take-off).
2. After the PTO is engaged run the engine at full speed. In thick, lush growth reduce ground speed (not engine speed) to allow the mower enough time to cut and discharge.

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ADJUSTMENTS

1. **Cutting Height:** The cutting height is controlled by the lever on the right side of the mower, fig 1, Items 1 and 4. It is most easily adjusted when the mower is in the raised (transport) position: adjusting the lever forward for a low cut, rearward for a high cut. The total range is 2 1/4 inches.
2. **Leveling:** If the mower appears to cut closer to the ground on one side than the other, adjust the mower support where it connects to the roller assembly, fig 1, Items 6, 50, 55, 57 and 58. To adjust, move the forked end of the support away from the roller shaft to make the right side cut higher. Move the forked end of the support closer to the roller shaft to make the right side cut lower.
3. **Belt Alignment:** If the belt appears to be wearing more on one side than the other, it is possible that the mower pulley is not aligned with the PTO pulley. To adjust, loosen the set screw in the hub of the mower pulley, fig 1, Items 37, 38, 39 and 40. Move the pulley in the direction of the worn side of the belt until the pulleys align. Raise the hood and view from above. Retighten the set screw.
4. **Blade Timing:** Correct timing is as follows: one blade is in the cradle front to rear while at the same time the other blade is in the cradle side to side (90° out of phase), fig 1, Items 31 and 32. To adjust, remove either one of the collar retaining rings, fig 1, Items 41 and 42. Slide the collar towards the middle of the shaft. Rotate the blades for correct timing. Slide the collar back on the gear box shaft and lock it in position with the retaining ring.
5. **Lift Rod:** If the mower does not come up high enough when the lift lever is in the top notch, move the jam nuts closer to the bend in the lift rod. This adjustment should bring the mower up closer to the tractor and still allow the mower to "float" when all the way down.
6. **Blade Removal:**
 - A. Remove the mower from the tractor and turn the mower upside down.
 - B. Remove the nuts, washers and blades, fig 1, Items 30, 31 and 54. It is not necessary to remove the blade cradles, fig 1, Item 35. A block of wood or something similar can be used to keep the blades from turning. Place the wedge between the blades and the side of the mower deck.
- C. If the cradles are removed, be sure to reinstall them with the woodruff keys, fig 1, Item 35.
7. **Blade Installation:**
 - A. Set the blades in the cradles as in fig 1, Items 31 and 32. The lift portion of the blades points towards the mower deck.
 - B. Put on the washers and torque the nuts to 25 ft. lbs., fig 1, Items 30 and 54. Similar tightness can be reached with any 8" length handle wrench when used by an average man. A block of wood or something similar can be used to keep the blades from turning. Place the wedge between the blade and the side of the mower deck.
 - C. Check to be sure that the blades are properly timed.
8. **Belt Replacement:**
 - A. Remove the mower from the tractor.
 - B. Remove the retaining rings from the drive shaft, fig 1, Item 41.
 - C. Slide the collars toward the pulley, fig 1, Item 42.
 - D. Remove the shaft and the old belt from the shaft.
 - E. Set the new belt on the pulley and reinstall the shaft. Note: Be sure that the blades are properly timed when reassembling the drive.

REMOVAL FROM TRACTOR

1. Lower the mower and disconnect the spring.
2. Raise the mower and open the attachment latches.
3. Lower the mower and disconnect the lift rod from the mower hanger and the tractor lift lever.
4. Move the mower as forward as possible.
5. Put the PTO in the IN position and remove the belt from the PTO pulley.
6. Slide the mower from under the tractor.
7. Reconnect the lift rod to the mower for storage.

TROUBLE SHOOTING

1. Blade timing is set at the factory and (with normal use) cannot go out of time. The obvious symptom of improper blade timing is the sound of the blades hitting together.
2. Causes of improper blade timing:
 - A. The blades were not timed properly when a new belt was installed.
 - B. A blade hit something hard enough to shear its woodruff key allowing the cradle to turn on the shaft, fig 1, Item 35. The key keeps the blade cradle from turning on the shaft.
 - C. The same impact condition as "B" except that the key did not shear but the drive collar has turned (slipped) on the shaft, fig 1, Item 42. This condition is rare as the key should shear (to protect the driveline) before the collar will slip.
3. Corrections for Items A, B and C:
 - A. Retime the blades; see ADJUSTMENTS.
 - B. Remove the blade and cradle and install a new woodruff key. Check blade timing; see ADJUSTMENTS.
 - C. Replace the drive collar with a new one; check the drive shaft and gear box shaft for damage. Retime the blades; see ADJUSTMENTS.

ROUTINE MAINTENANCE

1. Keep the mower blades sharp and balanced.
2. Keep the mower clear of cuttings and debris.
3. Periodically inspect the drive housings for leakage of lubricant, fig 1, Items 36 and 44. If the drive housings show signs of leakage, contact the Gravely Dealer. Do not open the drive housing as this voids warranty.

STORAGE

1. Clean the mower of all cuttings and debris.
2. Perform all routine maintenance.
3. Apply a light coat of oil to preserve the finish and appearance.

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